

### **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings of claims, in the application:

### **LISTING OF CLAIMS:**

1. (Currently Amended) A method for transmitting call-processing-related traffic in a voice over packet network having ~~at least one~~ a set of physical links ~~for transmitting said call-related bearer traffic, the method comprising:~~  
creating a plurality of logical tunnels in said set of physical links for transmitting said call-related traffic, wherein said call-related traffic includes call processing-related traffic and ~~said~~ bearer traffic;  
establishing priorities for transmitting said call processing-related traffic and said bearer traffic; and  
transmitting said call processing-related traffic and said bearer traffic through said logical tunnels in said set of physical links.
2. (Original) The method defined in claim 1, wherein said call processing-related traffic includes call control and OAM&P.
3. (Original) The method defined in claim 1, wherein said voice over packet network comprises an ATM network.
4. (Original) The method defined in claim 3, further comprising separating said logical tunnels by using different switched virtual circuits with different service profiles.
5. The method defined in claim 4, wherein said call processing-related traffic includes call control and OAM&P.
6. (Original) The method defined in claim 3, further comprising separating said logical tunnels by using different permanent virtual circuits with different service profiles.
7. (Original) The method defined in claim 6, wherein said call processing-related traffic includes call control and OAM&P.
8. (Original) The method defined in claim 1, wherein said voice over packet network comprises an IP network.
9. (Original) The method defined in claim 8, further comprising separating said logical tunnels by using different virtual private networks with different multiprotocol label switching tags.

10. (Original) The method defined in claim 9, wherein said call processing-related traffic includes call control and OAM&P.

11. (Currently Amended) A system for transmitting call-processing-related traffic in a voice over packet network having at least one a set of physical links for bearer-transmitting said call-related traffic, the system comprising:

means for creating a plurality of logical tunnels in said set of physical links for transmitting said call-related traffic, wherein said call-related traffic includes call processing-related traffic and bearer traffic;

means for establishing priorities for said call processing-related traffic and said bearer traffic; and

means for transmitting said call processing-related traffic and said bearer traffic through said logical tunnels in said physical links.

12. (Original) The system defined in claim 11, wherein said call processing-related traffic includes call control and OAM&P.

13. (Original) The system defined in claim 11, wherein said voice over packet network comprises an ATM network.

14. (Original) The system defined in claim 13, further comprising means for separating said logical tunnels by using different switched virtual circuits with different service profiles.

15. (Original) The system defined in claim 14, wherein said call processing-related traffic includes call control and OAM&P.

16. (Original) The system defined in claim 13, further comprising separating said logical tunnels by using different permanent virtual circuits with different service profiles.

17. (Original) The system defined in claim 16, wherein said call processing-related traffic includes call control and OAM&P.

18. (Original) The system defined in claim 11, wherein said voice over packet network comprises an IP network.

19. (Original) The system defined in claim 18, further comprising separating said logical tunnels by using different virtual private networks with different multiprotocol label switching tags.

20. (Original) The system defined in claim 19, wherein said call processing-related traffic includes call control and OAM&P.